

CLAIMS

1. A percussion drill bit for drilling a bore, comprising a drill body having a connecting section at a rear end thereof for connection to a percussive unit and defining a rotational axis (CL1) of the drill bit, and a plurality of regrindable cemented carbide buttons (7,9,10) embedded in a front end of the drill body, said front end being rigid with respect to the connecting section, each button comprising a cemented carbide body having a rear mounting portion (20) embedded in the drill body, and a front end (18) protruding from the drill body, wherein the front end of the cemented carbide button is substantially semi-spherically curved and defined by a radius (R2), an origin (C) of the radius (R2) being disposed axially rearwardly of a plane (P) substantially containing an edge (22), said front end having a surface (18A) which starts at said edge (22),

characterized in that the button (7,9,10) projects from the drill bit body a distance (L2) which is not less than 50 % of the button diameter (D) and in that a conical intermediate surface (21), between said surface (18A) and said edge (22), forms, in cross-section, an acute angle ( $\alpha$ ) of about 13-19° with the envelope surface (25) of the rear mounting portion (20).

2. A drill bit according to claim 1, wherein the distance (L2) is not less than 52% of the button diameter (D).

3. A drill bit according to claim 2, wherein the curved front end (18) of the cemented carbide button connects to a conical surface (22) which in turn connects to the envelope surface (25) of the button (7,9,10) at a location containing a plane (P) defining the largest diameter (D) of the button.

4. A drill bit according to claim 1, wherein the radius (R2) is about 85 % to 115 % of the radius (R1) of the rear mounting portion (20).

5. A regrindable cemented carbide button for a percussive rock drill bit having a rear mounting portion (20) to be embedded in a drill body, and a front end (18) protruding

from the drill body, wherein the front end (18) of the cemented carbide button is substantially semi-spherically curved and defined by a radius (R2), an origin (C) of the radius (R2) being disposed axially rearwardly of a plane (P) substantially containing an edge (22), said front end having a surface (18A) which starts at said edge (22), characterized in that the button is adapted to project from the drill bit body a distance (L2) which is not less than 50 % of the button diameter (D) and in that a conical intermediate surface (21), between said surface (18A) and said edge (22), forms, in cross-section, an acute angle ( $\alpha$ ) of about 13-19° with the envelope surface (25) of the rear mounting portion (20).

6. The regrindable button according to claim 5, wherein the distance (L2) is not less than 52% of the button diameter (D).

7. The regrindable button according to claim 6, wherein the curved front end (18) of the cemented carbide button connects to a conical surface (22) which in turn connects to the envelope surface (25) of the button (7,9,10) at a location containing a plane (P) defining the largest diameter (D) of the button.

8. The regrindable button according to claim 5, wherein the radius (R2) is about 85 % to 115 % of the radius (R1) of the rear mounting portion (20).